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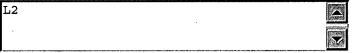
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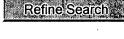
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Search History

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END OF SEARCH HISTORY

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L2: Entry 6 of 6

File: USPT

Mar 11, 2003

US-PAT-NO: 6531303

DOCUMENT-IDENTIFIER: US 6531303 B1

TITLE: Method of producing geranylgeraniol

DATE-ISSUED: March 11, 2003

INVENTOR-INFORMATION:

NAME

CITY

ZIP CODE STATE

COUNTRY

Millis; James R.

Kohler

WT

Maurina-Brunker; Julie

Appleton

WI

McMullin; Thomas W.

Manitowoc

WI

ASSIGNEE-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Arkion Life Sciences LLC

Wilmington DE 02

APPL-NO: 09/350275 [PALM] DATE FILED: July 6, 1999

PARENT-CASE:

REFERENCE TO RELATED APPLICATION This application claims priority from U.S. Provisional Application Serial No. 60/091,964, filed Jul. 6, 1998, entitled "Production of Farnesol and Geranylgeraniol."

INT-CL-ISSUED: [07] C12P 7/02, C12N 9/10, C12N 15/00, C12N 15/74, C12N 15/01

INT-CL-CURRENT:

TYPE IPC

DATE

CIPS C12 N 9/10

20060101

CIPS <u>C12</u> <u>N</u> <u>9/02</u>

20060101

CIPS CO7 D 311/72 20060101

CIPS C12 P 7/02

CIPS CO7 D 311/00 20060101 20060101

CIPS C12 P 7/04

20060101

US-CL-ISSUED: 435/155; 435/193, 435/254.21, 435/320.1, 435/471, 435/441 US-CL-CURRENT: 435/155; 435/193, 435/254.21, 435/320.1, 435/441, 435/471

FIELD-OF-CLASSIFICATION-SEARCH: 435/155, 435/254.21, 435/441, 435/320.1, 435/471, 435/193

See application file for complete search history.

PRIOR-ART-DISCLOSED:

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Search Selected	Search ALL	Clear
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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
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5589372	December 1996	Robinson et al.	435/193
5766911	June 1998	Koike et al.	435/193

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```

ART-UNIT: 1652

PRIMARY-EXAMINER: Achutamurthy; Ponnathapura

ASSISTANT-EXAMINER: Walicka; Malgorzata A

ATTY-AGENT-FIRM: Ross, P.C.; Sheridan

ABSTRACT:

The invention provides a biological method of producing geranylgeraniol.

14 Claims, 24 Drawing figures

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       MENDGEN, Kurt, Fischerstrasse 32, 78464 Konstanz, DE;
TN
       PIEL, Joern, Koblenzer Strasse 79, 53177 Bonn, DE;
       VAHLENKAMP, Heinz, Rometstrasse 6, 78244 Gottmadingen, DE;
       GIELE, Christine, Austrasse 93, 78467 Konstanz, DE;
       WIRSEL, Stefan, G., R., Adolf-von-Harnack-Strasse 25, 06114 Halle, DE;
       HOFFMANN, Jochen, Kapellenstrasse 5, 86368 Gersthofen, DE;
       BOLAND, Wilhelm, Carl-Ortf-Strasse 21, 07743 Jena, DE;
       JUX, Andreas, Grenzhoefer Weg 2, 68123 Heidelberg, DE
       MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.,
PA
       Hofgartenstrasse 8, 80539 Muenchen, DE
       VOSSIUS & PARTNER, Siebertstrasse 4, 81675 Munich, DE
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       Saucy, Gabriel G., Essex Fells, NJ, UNITED STATES
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       US 2004249219
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       Millis, James R., Kohler, WI, UNITED STATES
TN
       Maurina-Brunker, Julie, Appleton, WI, UNITED STATES
       McMullin, Thomas W., Manitowoc, WI, UNITED STATES
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                         A1 20040610
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AN
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       Method for production of geranylgeraniol and analogous compounds thereof
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       Procede de preparation de geranylgeraniol et de composes analogues a
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IN
       Muramatsu, Masayoshi, c/o TOYOTA Jidosha Kabushiki Kaisha, 1,
       Toyota-cho, Toyota-shi, Aichi 471-8571, JP;
       Obata, Shusei, c/o TOYOTA Jidosha Kabushiki Kaisha, 1, Toyota-cho,
       Toyota-shi, Aichi 471-8571, JP;
       Shimizu, Sakayu, c/o TOYOTA Jidosha Kabushiki Kaisha, 1, Toyota-cho,
       Toyota-shi, Aichi 471-8571, JP
       TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi
PA
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PAN
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       Leson, Thomas Johannes Alois, Dipl.-Ing., Tiedtke-Buehling-Kinne &
ΑG
       Partner GbR, TBK-Patent, Bavariaring 4, 80336 Muenchen, DE
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TIEN
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IN
       Muramatsu, Masayoshi, c/o TOYOTA Jidosha Kabushiki Kaisha, 1,
       Toyota-cho, Toyota-shi, Aichi 471-8571, JP;
       Obata, Shusei, c/o TOYOTA Jidosha Kabushiki Kaisha, 1, Toyota-cho,
       Toyota-shi, Aichi 471-8571, JP;
       Shimizu, Sakayu, c/o TOYOTA Jidosha Kabushiki Kaisha, 1, Toyota-cho,
       Toyota-shi, Aichi 471-8571, JP
       TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi
PA
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Partner GbR, TBK-Patent, Bavariaring 4, 80336 Muenchen, DE

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       CHAMBON C ET AL: "ISOLATION AND PROPERTIES OF YEAST MUTANTS AFFECTED IN
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       FARNESYL DIPHOSPHATE SYNTHETASE" CURRENT GENETICS, NEW YORK, NY, US,
       vol. 18, 1990, pages 41-46, XP002909498 ISSN: 0172-8083
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       WO 2000001650
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AN
TI
       Method of vitamin production
       Millis, James R., Kohler, WI, UNITED STATES
IN
       Saucy, Gabriel G., Essex Fells, NY, UNITED STATES
       Maurina-Brunker, Julie, Appleton, WI, UNITED STATES
       McMullin, Thomas W., Manitowoc, WI, UNITED STATES
       DCV, Inc., d/b/a Bio-Technical Resources (U.S. corporation)
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       KENYON & KENYON, 1025 Connecticut Avenue, N.W., Washington, DC,
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       Millis, James R., Kohler, WI, UNITED STATES
IN
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Maurina-Brunker, Julie, Appleton, WI, UNITED STATES
       McMullin, Thomas W., Manitowoc, WI, UNITED STATES
       DCV, Inc. d/b/a Bio-Technical Resources. (U.S. corporation)
PA
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       Millis, James R., Kohler, WI, United States
IN
       Maurina-Brunker, Julie, Appleton, WI, United States
       McMullin, Thomas W., Manitowoc, WI, United States
       Arkion Life Sciences LLC, Wilmington, DE, United States (U.S.
PA
       corporation)
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       Ross, P.C., Sheridan
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       KENYON & KENYON, 1500 K STREET, N.W., SUITE 700, WASHINGTON, DC, 20005
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       Millis, James R., Kohler, WI, United States
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Saucy, Gabriel G., Essex Fells, NJ, United States
       Maurina-Brunker, Julie, Appleton, WI, United States
       McMullin, Thomas W., Maintowoc, WI, United States
       DCV, Inc., Manitowoc, WI, United States (U.S. corporation)
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       COHEN, Noel
       DCV, INC. D/B/A BIO-TECHNICAL RESOURCES
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       Maurina-Brunker, Julie, Appleton, WI, United States
       McMullin, Thomas W., Manitowoc, WI, United States
       Hyatt, John A., Kingsport, TN, United States
       DCV, Inc., Wilmington, DE, United States (U.S. corporation)
PΑ
       Eastman Chemical Company, Kingsport, TN, United States (U.S.
       corporation)
PТ
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       US 1999-352654
                               19990706 (9)
AΙ
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DT
       Utility
FS
       Granted
       Primary Examiner: Achutamurthy, Ponnathapu; Assistant Examiner: Kerr,
EXNAM
       Kathleen
       Sheridan Ross P.C.
LREP
CLMN
       Number of Claims: 29
ECL
       Exemplary Claim: 1
DRWN
       18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 3840
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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2000001650 PCTFULL ED 20020515
AN
       METHOD OF VITAMIN PRODUCTION
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       SAUCY, Gabriel, G.;
       MAURINA-BRUNKER, Julie;
       McMULLIN, Thomas, W.
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       METHOD OF VITAMIN PRODUCTION
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IN
       MILLIS, James, R.;
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       HYATT, John, A.
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       DCV, INC. doing business as BIO-TECHNICAL RESOURCES;
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